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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2  
19702A 6SRS, MISSILE NUMBER 221 ROUND NUMBER 8-49 22 OCTOBER 19--ETC(U)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19702A GSRS, Missile Number 221, Round Number B-49 are presented in tabular form.		

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## INTRODUCTION

19702A GSRS, Missile Number 221, Round Number B-49 was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1030 MDT 22 October 1979. The scheduled launch time was 1030 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

## 1. Observations

**a. Surface**

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pilot observation at:

## SITE AND ALTITUDE

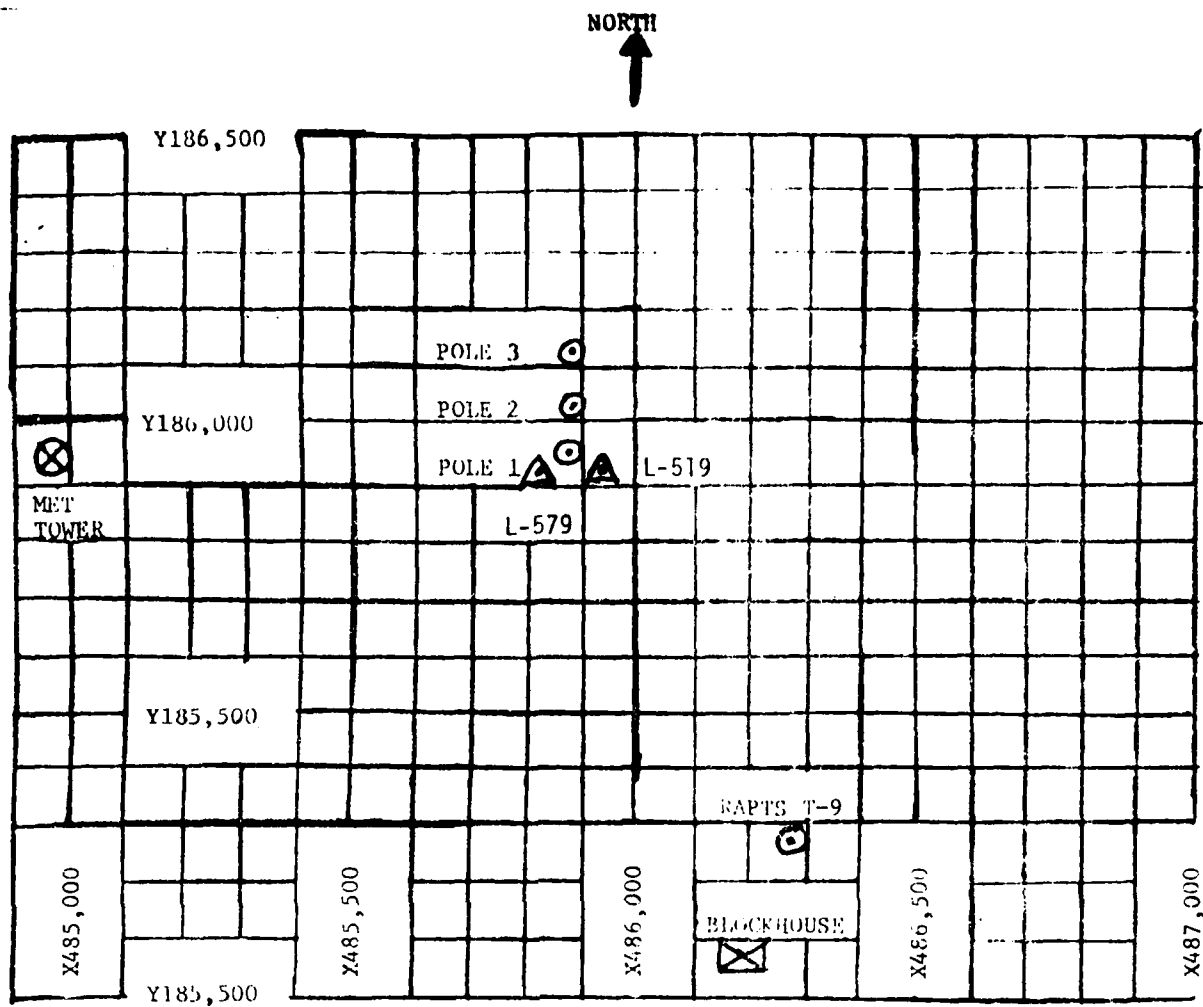
LC-33 2Km  
NICK 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 97,500 feet in 500-foot increments.

## SITE AND TIME

SMR 0845 MST

Accession For	NTIS CHAI				
	DOC TAB				
	Unpublished				
	Classification				
Ex					
	Country				
	Availability Codes				
List	Available/or				
	Special				
A33		A33			



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 51 ft, 102 ft, and 152 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
  - (a) Pole #1 - 58.7 ft
  - (b) Pole #2 - 53.0 ft
  - (c) Pole #3 - 83.6 ft
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

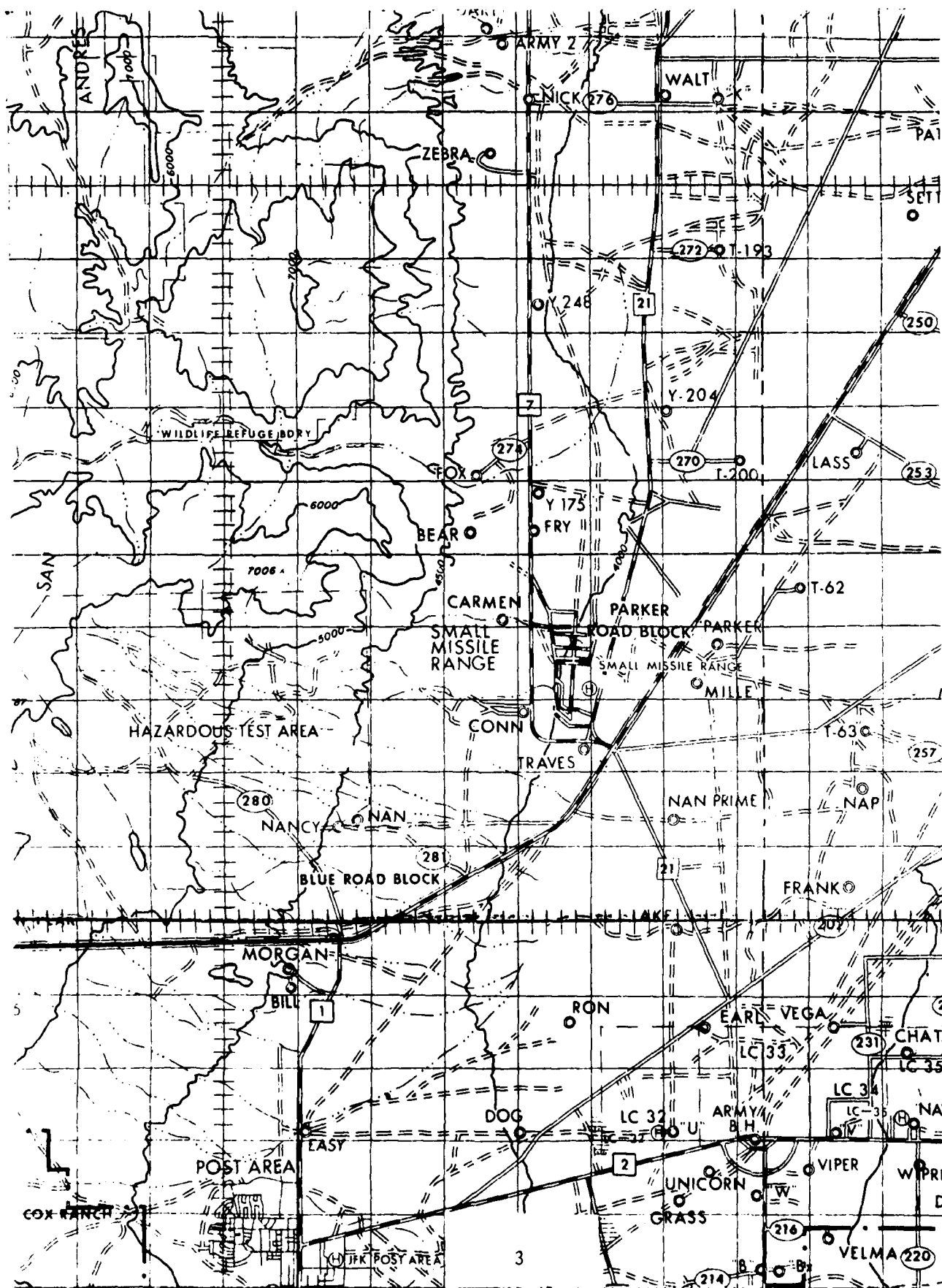


TABLE 1. Surface Observations taken at 1030 MDT,  
22 October 1979, at LC-33, 19702A GSRS,  
Missile Number 221, Round Number B-49.

ELEVATION	3977.30	FT/MSL
PRESSURE	877.7	MBS
TEMPERATURE	13.7	°C
RELATIVE HUMIDITY	35	%
DEW POINT	-1.4	°C
DENSITY	1061	GM/M <sup>3</sup>
WIND SPEED	08	KTS
WIND DIRECTION	350	DEGREES
CLOUD COVER	CLEAR	



# LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	042	06	-30	042	MISG	-30	063	08
-20	050	09	-20	048	MISG	-20	032	08
-10	040	10	-10	042	MISG	-10	038	13
0.0	039	11	0.0	037	MISG	0.0	033	12
+10	024	14	+10	033	MISG	+10	025	14

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft AGL

TABLE 2

TYPE 19702A GSRS MISSILE NO. 221 ROUND NO. B-49

LAUNCHED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 Feet			LEVEL #2 62 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	014	09	-30	043	08
-20	357	07	-20	056	07
-10	057	05	-10	063	05
0.0	021	03	0.0	030	05
+10	039	08	+10	018	09
LEVEL #3 102 Feet			LEVEL #4 202 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	042	07	-30	028	07
-20	048	08	-20	043	09
-10	030	09	-10	019	10
0.0	036	07	0.0	005	12
+10	013	09	+10	006	10

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00 (base)

TABLE 3

TYPE 19702A GSRS MISSILE NO. 221 ROUND NO. B-49

LAUNCHED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

## GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 22 October 1979 TIME 1020 MDT

TRACKER COORDINATES (WSTM) X= 486.037.24 Y= 182.350.16 H= 3977.30

MISSILE TYPE 19702A GSRS MISSILE NO. 221 ROUND NO. B-49

MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	350	08
90	MISG	MISG
150	028	11
210	033	13
270	026	12
330	038	13
390	023	15
500	023	16
650	016	12
800	014	07
950	004	08
1150	356	06
1350	323	01
1550	243	06
1750	277	14
2000	275	09

[illegible][illegible]

# GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT  
 TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30  
 MISSILE TYPE 19702A GSRS MISSILE NO. 221 ROUND NO. B-49  
 MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	350	08						
90	MISG	MISG						
150	053	11						
210	048	10						
270	061	13						
330	054	13						
390	038	11						
500	040	12						
650	022	12						
800	013	09						
950	359	09						
1150	358	07						
1350	353	03						
1550	251	06						
1750	277	13						
2000	284	10						

# GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK DATE 22 October 1979 TIME 1020 MDT  
 TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57  
 MISSILE TYPE 19702A GSRS MISSILE NO. 221 ROUND NO. B-49  
 MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	030	02
90	017	04
150	014	05
210	012	06
270	011	08
330	010	09
390	007	09
500	001	08
650	350	08
800	342	04
950	327	04
1150	278	04
1350	267	05
1550	283	06
1750	298	08
2000	301	11

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

# GSRs PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM NICK DATE 22 October 1979 TIME 1030 MDT  
 TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57  
 MISSILE TYPE 19702A GSRs MISSILE NO. 221 ROUND NO. B-49  
 MISSILE LAUNCHED FROM LC-33 DATE 22 October 1979 TIME 1030 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	020	03
90	019	03
150	017	04
210	015	05
270	014	06
330	013	08
390	012	08
500	008	07
650	003	04
800	352	04
950	324	03
1150	268	04
1350	268	06
1550	297	07
1750	309	08
2000	302	11

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

GEOMETRIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

SIGNIFICANT LEVEL DATA  
2950000360  
S M N

STATION ALTITUDE 3997.30 FEET MSL  
22 OCT. 79  
ASCENSION NO. 360

TABLE 8

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
806.1	12.8	-2.6	34.0
879.2	10.2	-4.9	34.0
858.0	7.8	-7.0	32.0
805.2	4.2	-10.2	34.0
774.6	5.4	-17.7	17.0
700.0	1.9	-20.5	17.0
666.4	1.9	-21.2	15.0
664.2	5.6	-18.2	16.0
551.2	-2.7	-16.2	29.0
527.8	-5.3	-20.5	29.0
506.0	-7.1	-26.2	20.0
483.4	-8.3	-27.2	20.0
469.0	-10.4	-26.4	21.0
400.0	-21.2	-32.0	37.0
391.9	-22.7	-32.0	39.0
383.2	-22.7	-36.8	26.0
371.0	-23.9	-38.7	24.0
360.0	-36.2	-48.3	27.0
292.2	-37.4	-49.4	27.0
250.0	-46.2		
200.0	-57.8		
182.6	-61.8		
155.2	-68.7		
150.0	-68.9		
131.4	-71.9		
122.6	-69.0		
105.4	-72.3		
100.0	-72.3		
77.0	-66.8		
63.4	-61.8		
50.0	-61.5		
37.7	-52.7		
30.0	-53.7		
21.6	-54.2		
20.0	-50.6		
12.4	-45.2		

STATION ALTITUDE 3997.30 FEET MSL  
22 OCT. 79 0845 HRS MST  
ASCENSION NO. 360

UPPER AIR DATA  
295000300  
S M R  
TABLE 9

GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES TRUE	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	886.1	12.8	34.0	1077.2	659.5	310.0	9.9	1.000263
4000.0	885.0	12.8	34.0	1077.2	659.4	310.0	9.9	1.000263
4500.0	869.9	9.4	33.4	1070.5	655.5	230.4	9.2	1.000257
5000.0	854.1	8.1	32.5	1056.1	653.9	230.2	8.6	1.000252
5500.0	838.4	6.9	32.5	1041.4	652.4	140.2	8.0	1.000248
6000.0	822.9	5.6	33.2	1026.9	650.9	7.4	7.6	1.000244
6500.0	807.8	4.4	33.9	1012.5	649.5	1.0	7.0	1.000240
7000.0	792.4	4.7	27.2	997.9	649.7	350.2	6.0	1.000233
7500.0	776.2	5.3	18.9	972.9	650.3	350.3	4.8	1.000225
8000.0	760.7	4.9	17.0	958.2	649.9	320.3	3.5	1.000220
8500.0	745.2	4.3	17.0	944.6	649.1	203.3	3.5	1.000216
9000.0	730.6	3.6	17.0	929.3	648.3	201.0	5.8	1.000213
9500.0	715.9	3.0	17.0	915.2	647.6	203.0	8.0	1.000209
10000.0	701.3	2.3	17.0	900.4	646.8	204.5	8.1	1.000206
10500.0	686.7	1.9	16.6	886.1	646.3	203.3	8.6	1.000202
11000.0	672.4	2.8	16.0	860.8	647.4	207.0	9.5	1.000198
11500.0	657.2	4.3	16.0	835.6	649.3	307.4	11.0	1.000194
12000.0	642.9	5.1	15.8	822.1	650.1	303.0	13.3	1.000190
12500.0	628.6	4.3	18.1	809.1	649.1	300.7	15.5	1.000188
13000.0	614.3	3.4	19.4	796.4	648.2	290.4	16.9	1.000185
13500.0	600.0	2.6	20.7	783.6	647.2	293.0	18.1	1.000182
14000.0	585.7	1.7	23.4	771.5	646.2	295.0	18.3	1.000180
14500.0	571.4	.9	23.4	759.3	645.2	292.7	18.6	1.000177
15000.0	557.1	.1	26.0	747.4	644.3	291.0	19.9	1.000174
15500.0	542.8	-0.8	26.0	735.7	643.3	290.9	21.0	1.000172
16000.0	528.5	-1.6	27.3	724.1	642.3	292.4	22.4	1.000169
16500.0	514.2	-2.4	28.6	712.0	641.3	293.0	23.8	1.000166
17000.0	500.0	-3.5	29.0	702.0	640.0	293.4	24.6	1.000164
17500.0	485.7	-4.7	29.9	691.6	638.6	299.0	25.3	1.000161
18000.0	471.4	-5.6	27.6	680.6	637.5	300.7	26.4	1.000158
18500.0	457.1	-6.2	24.3	669.4	636.7	301.9	27.7	1.000154
19000.0	442.8	-6.9	21.1	658.2	635.9	302.5	29.7	1.000151
19500.0	428.5	-7.6	20.0	647.1	635.1	302.0	32.4	1.000148
20000.0	414.2	-8.3	20.0	636.3	634.2	303.2	34.5	1.000145
20500.0	400.0	-9.6	20.6	627.0	632.6	304.1	36.0	1.000143
21000.0	385.7	-10.9	21.8	617.9	631.0	304.7	36.8	1.000141
21500.0	371.4	-12.3	23.6	608.8	629.3	305.1	36.8	1.000139
22000.0	357.1	-13.7	25.8	599.6	627.7	305.0	37.3	1.000137
22500.0	342.8	-15.0	27.0	590.9	626.0	305.6	38.2	1.000135
23000.0	328.5	-16.4	29.9	582.2	624.4	302.0	39.3	1.000133



STATION ALTITUDE 997.30 FEET MSL  
22 OCT. 79 0845 HRS MST  
ASCE/SIO. NO. 300

UPPER AIR DATA  
295000300  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 9 (CONT)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	ULMPPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.7	-17.8	-30.4	31.9	573.7	622.7	301.4	1.000131
24000.0	412.3	-19.1	-31.0	34.0	565.2	621.0	297.6	1.000129
24500.0	404.1	-20.5	-31.6	36.0	557.0	619.3	297.0	1.000127
25000.0	395.9	-22.0	-32.4	38.0	548.9	617.6	294.9	1.000125
25500.0	387.8	-22.7	-34.5	32.9	539.3	616.8	293.3	1.000122
26000.0	379.9	-23.0	-37.3	25.5	528.9	616.2	291.4	1.000119
26500.0	372.1	-23.8	-38.5	24.2	519.7	615.3	283.6	1.000117
27000.0	364.2	-25.0	-39.5	24.3	511.2	613.8	289.6	1.000115
27500.0	356.6	-26.2	-40.4	24.6	502.9	612.3	294.0	1.000113
28000.0	349.0	-27.4	-41.4	24.9	494.8	610.7	290.8	1.000111
28500.0	341.7	-28.7	-42.4	25.2	486.8	609.2	302.1	1.000109
29000.0	334.5	-29.9	-43.3	25.5	478.9	607.6	300.9	1.000107
29500.0	327.4	-31.1	-44.3	25.8	471.2	606.1	298.2	1.000106
30000.0	320.5	-32.4	-45.3	26.1	463.6	604.5	297.9	1.000104
30500.0	313.7	-33.6	-46.3	26.4	456.2	603.0	293.3	1.000102
31000.0	307.1	-34.8	-47.3	26.7	448.9	601.4	290.3	1.000101
31500.0	300.6	-36.1	-48.2	27.0	441.7	599.9	292.0	1.000099
32000.0	294.1	-37.1	-49.1	27.0	434.0	598.6	297.7	1.000097
32500.0	287.6	-38.3	-51.1	24.3**	426.6	597.1	297.3	1.000095
33000.0	281.3	-39.6	-53.6	20.4**	419.4	595.4	290.9	1.000094
33500.0	275.0	-40.8	-56.4	16.5**	412.4	593.8	290.4	1.000092
34000.0	268.9	-42.1	-59.6	12.6**	405.5	592.2	293.9	1.000090
34500.0	263.0	-43.3	-63.4	8.8**	398.7	590.6	293.0	1.000089
35000.0	257.2	-44.6	-65.6	4.9**	392.0	589.0	294.7	1.000087
35500.0	251.5	-45.9	-70.7	1.0**	385.4	587.3	292.2	1.000086
36000.0	245.7	-47.1			378.7	585.7	289.7	1.000084
36500.0	240.0	-48.3			371.9	584.1	287.8	1.000083
37000.0	234.3	-49.5			365.3	582.0	286.2	1.000081
37500.0	229.0	-50.8			358.8	581.0	280.5	1.000080
38000.0	223.7	-52.0			352.4	579.4	280.9	1.000079
38500.0	218.5	-53.2			346.1	577.8	287.6	1.000077
39000.0	213.5	-54.4			340.0	576.2	280.6	1.000076
39500.0	208.3	-55.6			334.0	574.6	286.6	1.000074
40000.0	203.1	-56.8			328.1	573.0	283.4	1.000073
40500.0	199.0	-58.0			322.2	571.4	283.7	1.000072
41000.0	194.2	-59.1			316.0	570.0	289.0	1.000070
41500.0	189.5	-60.2			310.0	568.6	291.4	1.000069
42000.0	185.0	-61.2			304.1	567.1	291.1	1.000068
42500.0	180.5	-62.3			298.2	565.7	289.0	1.000066
43000.0	176.0	-63.4			292.3	564.3	287.7	1.000065

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN LINE INTERPOLATION.

STATION ALTITUDE 3997.30 F-ET MSL  
22 OCT. 79  
ASCESSION NO. 380

UPPER AIR DATA  
2950000300  
5 M R

REL. HUM. 32.48034 LAT DEG  
106.42307 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY G/CM <sup>3</sup>	SPEED OF SOUND METER	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	171.7	-64.4		280.6	302.9	203.3	49.9	1.000064
44000.0	167.5	-65.3		280.9	302.4	203.3	50.5	1.000063
44500.0	163.4	-66.5		275.4	300.0	202.0	51.0	1.000061
45000.0	159.4	-67.6		270.0	298.6	201.1	51.4	1.000060
45500.0	155.4	-68.0		264.8	297.1	200.7	51.7	1.000059
46000.0	151.5	-68.8		259.4	295.9	200.1	51.7	1.000058
46500.0	147.7	-69.2		252.4	295.3	200.7	51.4	1.000056
47000.0	144.0	-69.6		246.7	295.5	200.5	50.1	1.000055
47500.0	140.4	-70.4		241.2	294.7	200.0	47.9	1.000054
48000.0	136.8	-71.0		235.8	293.9	200.4	46.7	1.000053
48500.0	133.4	-71.6		230.5	293.1	200.2	46.6	1.000051
49000.0	130.0	-71.5		224.6	293.3	200.2	46.5	1.000050
49500.0	126.8	-70.1		217.8	294.7	200.0	46.7	1.000049
50000.0	123.6	-69.3		211.2	296.2	200.0	46.9	1.000047
50500.0	120.4	-69.4		205.9	298.1	200.4	46.1	1.000046
51000.0	117.4	-69.9		201.3	299.3	200.5	45.3	1.000045
51500.0	114.4	-70.5		196.7	299.6	200.6	46.1	1.000044
52000.0	111.6	-71.1		192.3	299.8	200.6	47.9	1.000043
52500.0	108.7	-71.6		188.0	299.1	200.6	48.1	1.000042
53000.0	105.0	-72.2		183.7	298.3	200.6	47.0	1.000041
53500.0	103.3	-72.3		179.2	298.1	200.5	44.9	1.000040
54000.0	100.7	-72.3		174.6	298.1	200.5	40.1	1.000039
54500.0	98.1	-72.0		170.0	298.5	200.2	35.5	1.000038
55000.0	95.7	-71.6		165.4	299.1	202.6	33.2	1.000037
55500.0	93.3	-71.2		160.9	299.6	200.0	31.0	1.000036
56000.0	90.9	-70.8		156.6	299.1	200.0	27.4	1.000035
56500.0	88.4	-70.4		152.4	298.7	200.0	23.3	1.000034
57000.0	86.0	-70.1		148.3	298.2	200.7	19.0	1.000033
57500.0	84.3	-69.7		144.3	298.7	200.0	15.1	1.000032
58000.0	82.2	-69.3		140.4	298.3	200.0	13.3	1.000031
58500.0	80.1	-68.9		136.6	298.8	200.1	17.0	1.000030
59000.0	78.1	-68.5		132.9	298.3	200.1	20.8	1.000030
59500.0	76.1	-68.1		129.3	297.9	200.1	23.6	1.000029
60000.0	74.2	-67.7		125.8	298.4	200.2	26.6	1.000028
60500.0	72.4	-67.3		122.5	298.9	200.0	27.6	1.000027
61000.0	70.5	-66.9		119.2	299.5	200.3	27.4	1.000027
61500.0	68.8	-65.9		115.7	299.8	200.6	26.9	1.000026
62000.0	67.1	-64.7		112.2	299.5	200.6	22.5	1.000025
62500.0	65.3	-63.4		108.8	299.2	200.7	19.3	1.000024
63000.0	63.9	-62.2		105.5	298.9	200.9	14.1	1.000023

STATION ALTITUDE 3997.30 FEET MSL  
22 OCT 79 0845 LRS MSL  
ASCELSION NO. 360

UPPER AIR DATA  
2950000300  
S M R

GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LONG DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION, DEGREES (TRUE)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.3	-61.8		102.7	566.4	390.1	10.1	1.000023
64000.0	60.8	-61.7		100.2	568.4	400.2	8.4	1.000022
64500.0	59.4	-61.7		97.8	566.5	57.1	7.1	1.000022
65000.0	57.9	-61.7		95.4	566.5	67.7	7.9	1.000021
65500.0	56.5	-61.7		93.1	566.6	110.1	9.2	1.000021
66000.0	55.2	-61.6		90.8	566.6	140.1	11.2	1.000020
66500.0	53.8	-61.6		88.6	566.6	157.0	13.3	1.000020
67000.0	52.5	-61.6		86.5	566.7	177.9	14.1	1.000019
67500.0	51.3	-61.5		84.4	566.7	190.4	15.5	1.000019
68000.0	50.0	-61.5		82.3	566.8	170.9	15.5	1.000018
68500.0	48.8	-60.3		80.1	567.7	152.9	15.1	1.000018
69000.0	47.7	-60.0		78.0	568.7	135.0	15.4	1.000017
69500.0	46.6	-59.3		75.8	569.7	200.0	15.3	1.000016
70000.0	45.5	-58.5		73.6	570.7	205.1	14.4	1.000016
70500.0	44.4	-57.6		71.6	571.7	204.6	11.6	1.000016
71000.0	43.3	-57.0		69.9	572.7	215.1	9.1	1.000015
71500.0	42.3	-56.3		68.0	573.7	225.6	7.2	1.000015
72000.0	41.3	-55.6		66.1	574.7	227.1	5.5	1.000014
72500.0	40.3	-54.8		64.4	575.7	233.3	3.9	1.000014
73000.0	39.4	-54.1		62.6	576.6	237.1	4.3	1.000013
73500.0	38.5	-53.3		60.9	577.6	190.3	6.3	1.000013
74000.0	37.6	-52.7		59.3	578.4	171.5	8.1	1.000013
74500.0	36.7	-52.4		58.0	578.3	157.3	8.8	1.000012
75000.0	35.8	-52.3		56.7	578.1	147.5	9.4	1.000012
75500.0	35.0	-53.0		55.4	578.0	141.4	7.2	1.000011
76000.0	34.2	-53.1		54.1	577.9	133.7	22.2	1.000011
76500.0	33.4	-53.2		52.9	577.7	130.1	33.9	1.000011
77000.0	32.6	-53.3		51.7	577.6	137.2	25.4	1.000010
77500.0	31.9	-53.4		50.5	577.5	273.2	16.8	1.000010
78000.0	31.1	-53.5		49.4	577.3	280.6	4.5	1.000010
78500.0	30.4	-53.6		48.2	577.2	287.5	16.7	1.000010
79000.0	29.7	-53.7		47.1	577.1	293.9	37.9	1.000010
79500.0	29.0	-53.8		45.1	577.0	290.7	44.9	1.000009
80000.0	28.3	-53.9		45.0	577.0	294.0	36.2	1.000009
80500.0	27.6	-53.9		44.0	577.0	109.6	27.6	1.000009
81000.0	27.0	-53.9		42.9	576.9	110.2	20.4	1.000009
81500.0	26.4	-53.9		41.9	576.9	107.3	20.4	1.000009
82000.0	25.8	-53.9		40.0	576.8	105.4	20.4	1.000009
82500.0	25.2	-54.0		39.1	576.7	99.4	20.4	1.000009
83000.0	24.6	-54.0						

STATION ALTITUDE 3997.30 FEET MSL  
22 OCT. 79 0845 HRS MST  
ASCENSION NO. 360

UPPER AIR DATA  
290000000  
S M H

GEODETTIC COORDINATES  
32.48034 LAT DEG  
106.42307 LONG DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE'S CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
83500.0	24.0	-54.0		33.2	576.7	90.4	14.0	1.000009
84000.0	23.5	-54.1		37.5	576.6	74.1	8.0	1.000008
84500.0	22.9	-54.1		36.5	576.6	67.4	7.0	1.000007
85000.0	22.4	-54.1		35.6	576.5	107.7	7.7	1.000008
85500.0	21.9	-54.2		34.8	576.5	121.9	8.9	1.000008
86000.0	21.4	-53.7		33.9	577.1	130.3	9.8	1.000008
86500.0	20.9	-52.6		33.0	578.0	137.2	10.9	1.000007
87000.0	20.4	-51.5		32.0	580.0	142.0	11.7	1.000007
87500.0	19.9	-50.6		31.2	581.2	141.9	10.6	1.000007
88000.0	19.5	-50.3		30.4	581.6	141.0	9.6	1.000007
88500.0	19.0	-50.0		29.7	581.9	140.2	8.1	1.000007
89000.0	18.6	-49.3		29.0	582.3	131.2	5.5	1.000006
89500.0	18.2	-49.5		28.3	582.0	140.3	3.3	1.000006
90000.0	17.8	-49.3		27.6	582.9	70.0	3.0	1.000006
90500.0	17.4	-49.0		27.0	583.3	61.4	4.2	1.000006
91000.0	17.0	-48.7		26.3	583.0	50.3	5.6	1.000006
91500.0	16.6	-48.5		25.7	583.9	53.9	6.9	1.000006
92000.0	16.2	-48.2		25.1	584.3	50.1	8.3	1.000006
92500.0	15.8	-48.0		24.5	584.0	61.1	9.8	1.000005
93000.0	15.5	-47.7		23.9	584.9	60.4	11.2	1.000005
93500.0	15.1	-47.5		23.4	585.3	60.9	12.4	1.000005
94000.0	14.8	-47.2		22.8	585.6	60.9	13.5	1.000005
94500.0	14.5	-46.9		22.3	585.9	60.9	14.6	1.000005
95000.0	14.1	-46.7		21.7	586.3	60.9		1.000005
95500.0	13.8	-46.4		21.2	586.0			1.000005
96000.0	13.5	-46.2		20.7	586.9			1.000005
96500.0	13.2	-45.9		20.2	587.3			1.000005
97000.0	12.9	-45.6		19.7	587.6			1.000004
97500.0	12.6	-45.4		19.3	588.0			1.000004

STATION ALTITUDE 3997.30 FEET MSL  
22 OCT. 79  
ASCENSION NO. 360

MANDATORY LLVLS  
2950060300  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA		
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS	
850.0	5126.	7.8	-7.8	32.	18.7	8.4	
800.0	6754.	4.4	-11.2	31.	360.0	6.5	
750.0	8479.	4.3	-18.6	17.	280.0	3.5	
700.0	10312.	1.9	-20.5	17.	270.2	8.3	
650.0	12286.	4.6	-17.9	18.	301.7	14.6	
600.0	14410.	1.1	-17.7	23.	292.0	18.7	
550.0	16689.	-2.8	-18.3	29.	294.0	24.2	
500.0	19145.	-7.1	-26.2	20.	302.5	30.6	
450.0	21813.	-13.2	-28.9	25.	305.1	37.0	
400.0	24711.	-21.2	-32.0	37.	295.0	43.3	
350.0	27909.	-27.3	-41.3	25.	298.4	36.7	
300.0	31486.	-36.2	-48.3	27.	290.0	43.7	
250.0	35552.	-46.2			291.0	36.2	
200.0	40294.	-57.8			286.4	50.0	
175.0	43020.	-63.6			287.2	49.5	
150.0	46078.	-68.9			283.0	51.6	
125.0	49628.	-69.8			289.1	46.9	
100.0	53954.	-72.3			309.9	39.1	
80.0	58308.	-68.9			250.5	16.8	
70.0	60943.	-66.8			282.0	27.6	
65.0	64050.	-61.7			41.5	7.5	
50.0	67757.	-61.5			170.0	15.6	
40.0	72570.	-54.5			234.3	5.1	
30.0	78448.	-53.7			289.7	29.8	
25.0	82291.	-54.0			102.2	25.6	
20.0	87001.	-50.6			141.9	10.9	
15.0	93198.	-47.4			63.9	12.7	

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.